



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,237	04/05/2004	Anatoliy V. Tsyrganovich	ZIL-519-1C	7465

47713 7590 04/25/2007  
IMPERIUM PATENT WORKS  
P.O. BOX 587  
SUNOL, CA 94586

EXAMINER
----------

LIE, ANGELA M

ART UNIT	PAPER NUMBER
----------	--------------

2163

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

*Supplemental*  
**Office Action Summary**

Application No.

10/820,237

Applicant(s)

TSYRGANOVICH, ANATOLIY V.

Examiner

Angela M. Lie

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 55-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 55 and 60-74 is/are rejected.
- 7) ☒ Claim(s) 56-59 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Due to the fact that the applicant did not receive the final rejection, the examiner issued the supplemental final rejection. Claims 56-58, previously rejected now stand objected, as the result of the interview conducted on March 22<sup>nd</sup>, 2007. In particular, the applicant pointed out that the correctional signal taught by Jackson is not performed by combining two signals, instead Jackson teaches the signal waveform comprising retrace and trace periods with the parabolic cusps.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 55 and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Jackson et al (US Patent 5475286).

As to claim 55, Jackson discloses a method comprising: generating a sawtooth signal (column 4, lines 46-48), wherein the sawtooth signal has amplitude (inherently each pulse or signal has a certain amplitude); generating a correction signal with no discontinuities (Figure 3, part F), wherein the correction signal has a vertical retrace time  $t_{vr}$  (Figure 3, marked as retrace) and a vertical active time  $t_{va}$  (Figure 3, marked as trace); modulating the amplitude of the sawtooth signal using the correction signal to generate a deflection signal (column 7, lines 13-16); and amplifying the deflection signal

Art Unit: 2163

to generate a deflection current signal (column 7, lines 10-12), wherein the deflection current signal is not distorted when the correction signal transitions from the vertical retrace time  $t_{vr}$  to the vertical active time  $t_{va}$  (column 1, lines 66-67 and column 2, lines 1-2; since any existing distortion in the raster (deflection current) is corrected, the current also can not be distorted in the points where the signal transitions).

As to claim 61, Jackson discloses the method wherein the generating the correction signal comprises generating a higher-order signal (Figure 3, since the signal is parabolic it is already considered a higher order i.e.  $x^2$ ).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 60, 62-67, 69-72 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson et al (US Patent 5475286) in the view of George (US Patent 5648703).

As to claim 60, Jackson teaches all the limitations disclosed in claim 55 and the horizontal correction signal (column 2, lines 59-63), however he does not teach the sawtooth signal being a horizontal sawtooth signal. George teaches a deflection correction signal having a horizontal sawtooth signal (column 2, lines 40-52). It would have been obvious to one of the ordinary skill in the art during the time the invention

Art Unit: 2163

was made to also adjust the horizontal sawtooth current as taught by Goerge in the Jackson's raster correction circuit (similarly to the vertical sawtooth signal) because this would prevent from mis-centering (column 2, lines 40-52). Both sawtooth signals i.e. vertical and horizontal, are useful in adjusting the displayed picture, therefore it would have been mostly a design choice to generate either vertical or horizontal sawtooth signals, or even both (having both components).

As to claims 62 and 72, Jackson discloses a horizontal deflection generator, comprising: a circuit that generates a sawtooth signal having an amplitude (column 4, lines 46-48); and means for modulating the amplitude of the sawtooth signal using a horizontal correction signal to generate a horizontal deflection current signal (column 1, lines 54-57), wherein the horizontal correction signal has no discontinuities (Figure 3, part F), wherein the horizontal correction signal has a vertical active time  $t_{va}$  (Figure 3, trace) and a vertical retrace time  $t_{vr}$  (Figure 3, retrace), and wherein the horizontal deflection current signal is not distorted after a transition from the vertical retrace time  $t_{vr}$  to the vertical active time  $t_{va}$ . Jackson however, does not teach that the sawtooth current is horizontal (column 1, lines 66-67 and column 2, lines 1-2; since any existing distortion in the raster (deflection current) is corrected, the current also can not be distorted in the points where the signal transitions). George teaches a deflection correction signal having a horizontal sawtooth signal (column 2, lines 40-52). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to also adjust the horizontal sawtooth current as taught by Goerge in the Jackson's raster correction circuit (similarly to the vertical sawtooth signal) because this

Art Unit: 2163

would prevent from mis-centering (column 2, lines 40-52). Both sawtooth signals i.e. vertical and horizontal, are useful in adjusting the displayed picture, therefore it would have been mostly a design choice to generate either vertical or horizontal sawtooth signals, or even both (having both components).

As to claim 63, Jackson teaches the horizontal deflection generator wherein the horizontal correction signal is a continuous signal (Figure 3, part F).

As to claims 64 and 74, Jackson teaches the horizontal deflection generator wherein the means comprises an amplifier (column 1, lines 54-58), wherein the means generates a modulated sawtooth signal, and wherein the amplifier generates the horizontal deflection current signal by amplifying the modulated sawtooth signal (column 1, lines 54-67), and George teaches the sawtooth signal being horizontal (column 2, lines 40-52).

As to claim 65, Jackson indirectly teaches the horizontal deflection generator wherein the amplifier has a limited frequency bandwidth (even though Jackson does not explicitly state this limitation, it is inherent that electronic devices have certain signal bandwidth since no device can have an infinite band of operation).

As to claim 66, Jackson teaches the horizontal deflection generator wherein the horizontal deflection generator is part of a raster display system (since the horizontal deflection circuit is used to improve the picture of the raster display, therefore it is inherently its part, i.e. part of the circuitry).

As to claim 67, Jackson teaches the horizontal deflection generator wherein horizontal deflection generator comprises an integrated circuit (Figure 1, element U1),

Art Unit: 2163

however he does not teach that all the elements of the correction circuit are integrated in a form of a single circuit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to integrate all the elements of the circuitry together, since it is held that rearranging parts of an invention involves only routine skill in the art. In re Japikse. 86 USPQ 70. Furthermore, nowadays integration is very common because of the significant devices' size reduction.

As to claim 69, Jackson teaches a circuit generating the correction signal, and wherein the circuit includes a level shifter (Figure 1, element U2, wherein amplifier is capable of shifting the level of the signal; US Patent 4988927, column 4, lines 45-48).

As to claim 70, Jackson teaches the circuit including an inverter (column 3, lines 43-46).

As to claim 71, Jackson teaches the circuit including a gain controller (column 1, lines 45-50).

6. Claims 68 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (US Patent 5475286) in the view of George (US Patent 5648703) and further in the view of Pspice (<http://www.orcad.com/pspicead.aspx>). Jackson and George teach all the limitations as disclosed in claim 62, however none of them teaches the horizontal deflection generator being implemented in software. PSpice used for circuit simulation is well known in the art since 1985 (<http://www.orcad.com/pspicead.aspx>), therefore it would have been obvious to one of the ordinary skill in the art during the time the invention was made to implement horizontal deflection circuit as taught by Jackson and George, in the software such as

Art Unit: 2163

Pspice, because Pspice allows to reflect true signal analysis, without spending money on the expensive circuit parts, furthermore if circuitry does not function properly it is also easier for the designer to find a faulty connection thanks to signal graphs and measurements which can be taken at any node.

### ***Allowable Subject Matter***

7. Claims 56-59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

As to claim 56, the prior art fails to teach a method of generating deflection current signal as disclosed in claim 55, wherein the generating the correction signal is performed by combining a first correction signal component with a second correction signal component.

As to claims 57- 59, those claims would be allowable by the virtue of their dependency on claim 56.

### ***The Prior Art***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



Art Unit: 2163

- US Patent 5583400 discloses a deflection correction circuit comprising horizontal waveform generator, a vertical waveform generator, an integrator and an amplifier.
- US Patent 5596250 discloses a deflection waveform correction circuit comprising: horizontal sawtooth signal, a correction signal and an amplifier.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

11. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Inquiry***

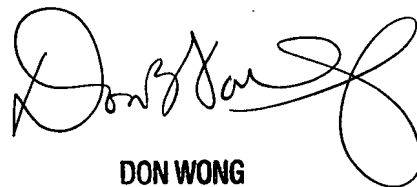
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**Angela M Lie**



**DON WONG**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100